

In The United States Patent and Trademark Office

In re Application of: Chatschik Bisdikian et al. Docket: YOR920010520US1

Serial Number: 09/933,625 Confirmation No.: 6413

Filed: August 21, 2001 Examiner: Djenane M. Bayard

Art Unit: 2141 Date: August 3, 2010

For: PERVASIVE PERSONAL DATA INTERACTIVITY OVER VOICE-GRADE CIRCUIT
SWITCHED CELLULAR NETWORKS

DECLARATION UNDER 37 CFR §1.131

Hon. Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Chatschik Bisdikian, William F. Jerome and Mahmoud Naghshineh declare and state
that:

1. We are the inventors of the invention claimed in the above-identified patent application.
2. We conceived in the United States the invention disclosed and claimed in the above-identified patent application prior to June 14, 2001.
3. As evidence in support of this prior conception, submitted herewith is the following evidence of activity done in the United States.

(a) Exhibit A is a copy of the relevant portion of Disclosure YOR8-2000-0712 submitted internally to the IBM Intellectual Property Law Department in the United States prior to June 14, 2001. In the Main Idea of Disclosure YOR8-2000-0712, there is disclosed an embodiment in which there is remote control of a home network by an apparatus comprising a

cellular phone, a cellular phone network, a PSTN network and a home server. The remote control of the home network is accomplished by cellular telephony, circuit switched technologies.

(b) Exhibit B is an email dated prior to June 14, 2001, from inventor Bisdikian to Mr. Louis P. Herzberg, a patent agent employed by the IBM Intellectual Property Law Department, in which the list of inventors is narrowed down to the present three inventors of the above-identified patent application.

(c) Exhibit C is an email dated prior to June 14, 2001, from inventor Bisdikian to Mr. Herzberg in which a writeup of Disclosure YOR8-2000-0712 is discussed.

(d) Exhibit D is the write-up for Disclosure YOR8-2001-0712 referenced in the Exhibit C email. In Exhibit D, there is disclosed an embodiment in which there is remote control of a home network by a voice telephony apparatus comprising a cellular phone, a cellular phone network, a PSTN network and a home server. As noted in the paragraph bridging pages 8 and 9, the voice telephony to the home server may be entirely by a cellular network.

(e) Exhibit E is the relevant portion of a docket record dated prior to June 14, 2001, from the IBM Intellectual Property Law Department indicating that Disclosure YOR8-2000-0712 was docketed as Docket YOR9-2001-0520-US1.

4. We exhibited diligence in the United States for the invention disclosed and claimed in the above-identified patent application from a period just prior to June 14, 2001, until the above-identified patent application was filed in the United States Patent and Trademark Office on August 21, 2001.

5. As evidence in support of this diligence, submitted herewith is the following evidence of activity done in the United States.

(a) Exhibit F is a series of three forwarded emails from inventor Bisdikian to Mr. Herzberg pertaining to the progress of Disclosure YOR8-2001-0712 (now Docket YOR9-2001-0520-US1). The earliest email, denoted with Exhibit F(1), is the same email as in Exhibit C. The Exhibit F(1) email has a "Forwarded by" date of July 9, 2001, which is the date when it was forwarded by inventor Bisdikian to Mr. Herzberg. In the second email, denoted with Exhibit F(2), inventor Bisdikian inquires as to the progress of the write-up of the patent application. This

second email is undated but can be dated as July 9, 2001, as the date when it forwarded the first email, Exhibit F(1). The third and latest email, denoted with Exhibit F(3), is dated August 6, 2001, and also inquires as to the progress of the write-up of the patent application.

(c) Exhibit G is an email dated August 17, 2001, from Mr. Herzberg to inventor Bisdikian in which a draft of the patent application was forwarded for review.

(d) Exhibit H is an email from inventor Bisdikian to Mr. Herzberg dated August 20, 2001, in which some final comments on the draft patent application were forwarded to Mr. Herzberg.

(e) On August 21, 2001, the above-identified patent application having Docket number YOR920010520US1 was filed in the U.S. Patent and Trademark Office.

6. Each of the dates deleted from Exhibits A to E is prior to June 14, 2001.

7. The undersigned hereby declare that all statements made herein of his own knowledge are true, all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and may jeopardize the validity of the application or any patent issued thereon.

Date: Aug 4, 2010

By: Chatschik Bisdikian
Chatschik Bisdikian

Date: _____

By: _____
William F. Jerome

Date: _____

By: _____
Mahmoud Naghsbinch

In The United States Patent and Trademark Office

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7. The undersigned hereby declare that all statements made herein of his own knowledge are true, all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and may jeopardize the validity of the application or any patent issued thereon.

Date: 8

By: _____

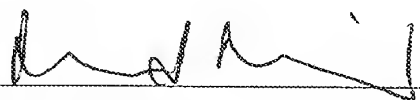
Chatschik Bisdikian

Date: _____

By: _____

William F. Jerome

Date: August 3, 2010

By: 

Mahmoud Naghshineh

EXHIBIT A



Disclosure YOR8-2000-0712

Prepared for and/or by an IBM Account - IBM Confidential

Created By Chatschik Bisdikian On [REDACTED] 10:06:00 AM EDT

Last Modified By wpts1 wpts1 On [REDACTED] 04:19:23 PM CDT

Archived on [REDACTED]

Required fields are marked with the asterisk (*) and must be filled in to complete the form.

* Title of disclosure (in English)

Pervasive Interactive Home Automation Control

Summary

| | |
|-----------------------|-----------------------|
| Status | Final Decision (File) |
| Final deadline | |
| Final deadline reason | |
| Docket family | YOR8-2001-0620 |
| * Processing location | Yorktown |

* Functional area 960 Query-Systems & Software

Attorney/Patent professional Louis P Herzberg/Watson/IBM

Business Area Manager/IDT Lead

Evaluators Louis P Herzberg/Watson/IBM

Submitted date [REDACTED] 12:40:55 PM EDT

* Owning division RES

Incentive program

Lab

* Technology code

Patent value tool (PVT) score 50

To calculate a PVT score, answer all of the questions in the "Patent Value Tool" section below, then click on the Calculate "PVT" action button.

Inventors with a Blue Pages entry

Inventors: Chernick/Biedker/Watson/IBM, William Jerome/Watson/IBM, Nathan J Lee/Watson/IBM, Jim Ruben/Watson/IBM, Veronique Perrot/Watson/IBM, Mimi Zohar/Watson/IBM, Frank Jennelle/Watson/IBM, Mahmoud Naghshineh/Watson/IBM, Todd Munner

| Inventor Name | Inventor Serial | Div/Dept | Inventor Phone | Manager Name |
|---------------------|-----------------|----------|----------------|---------------------|
| Biedker, Chatschik | 446754 | 22/941I | N/A | Naghshineh, Mahmoud |
| Jerome, William F | 086135 | 22/941I | N/A | Naghshineh, Mahmoud |
| Lee, Nathan J. | 835452 | 22/941I | N/A | Naghshineh, Mahmoud |
| Ruben, James | 196500 | 22/941K | N/A | Naghshineh, Mahmoud |
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| Zohar, Mimi (Mimi) | 436221 | 22/941K | N/A | Naghshineh, Mahmoud |
| Jennelle, Frank J. | 537615 | 22/941I | N/A | Naghshineh, Mahmoud |
| Naghshineh, Mahmoud | 540868 | 22/941I | N/A | Krishna, Arvind |
| Munner, Todd W. | 878523 | 22/941K | N/A | Naghshineh, Mahmoud |

* Denotes primary contact

Inventors without a Blue Pages entry

Invention Development Team Information

Attorney/Patent professional Louis P Herzberg/Watson/IBM

Business area manager/IDT lead

Evaluators Louis P Herzberg/Watson/IBM

Other interested parties who may view this disclosure

Date evaluation response due to IP Law [REDACTED]

Main Idea

To view the Main Idea of this disclosure, open the "Main Idea" document from the view

*Critical Questions (Questions 1-9 must be answered in English)

*Question 1

On what date was the invention workable? 06/14/2006 Please format the date as MM/DD/YYYY (Workable means i.e. when you know that your design will solve the problem)

*Question 2



Main Idea for Disclosure YOR8-2000-0712

Prepared for and/or by an IBM Attorney - IBM Confidential

Archived On [REDACTED] 01:04:18 AM

Title of disclosure (in English)

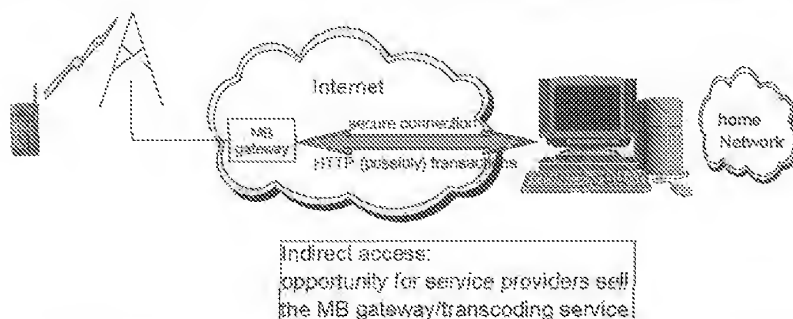
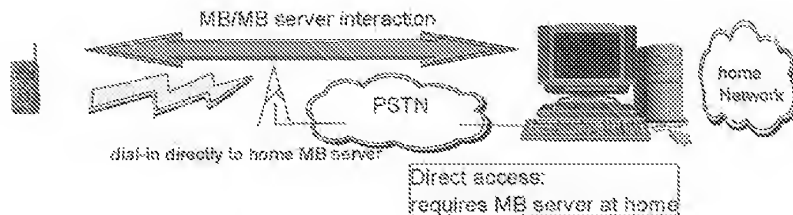
Pervasive Interactive Home Automation Control

Main Idea

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

Remote control for home (and other) automation systems is a feature that has interested manufacturers for long time (e.g., IBM Home Director effort). For this disclosure, we propose to do so using data cellular telephony technology and web-phones. Using the cell-phone either we dial in to a home server (using circuit switched technologies) or connect to it directly (using packet switched technologies) and interact with the home server through interactive microbrowser pages (whichever microbrowser the web-phone uses). This solution requires the home server to be able to generate and process microbrowser form pages. Alternative to direct connection to the home microbrowser server, a third party service can be developed and offered at a fee, which will provide a microbrowser gateway services and connect through secure channels to the home automation server.

The figure below summarize the two approaches: (MB stands for microbrowser)



The above approach introduces the concept of the a home microbrowser server, which is currently associate only with server providers. It also provides the concept of the home control service available through service providers.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?

See above. Regarding an advantage, it provides two options (a) it provides pervasive (remote) interactive

access to one's personal server remotely using a personal, mobile device; (b) provides the opportunity for a service provider to create a service allowing users to access pervasively personal servers without requiring major changes in one's personal server.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?

Yes. There are products (at least they were) that allowed you to remotely switch on/off lights, get to coffee maker brewing coffee. These solutions use regular telephony to send control tones to the devices one wants to turn on or off. In the absence of an interactive visual feedback feature, controlling and managing remotely the various devices, this solution becomes tedious. Using simple web-phone technology, people get empowered to access home and other automation systems and interactively activate services of personal interest at home at one's convenience.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.

No

EXHIBIT B

----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/19/2010 04:09 PM -----
From: Chatschik Bisdikian/Watson/IBM
To: Louis P Herzberg/Watson/IBM@IBMUS
Cc: Mahmoud Naghshineh, William Jerome/Watson/IBM@IBMUS
Date: [REDACTED] 02:50 PM
Subject: Embodiment for Disclosure YOR8-2000-0712

Lou,

Here is the embodiment of disclosure YOR8-2000-0712. Note that the list of inventors in the disclosure is much smaller than the one presented during the review of the invention. The additional names were people to which I've talked about the invention, but they did not contributed to it. Per your advice on the review date, the missing names were removed after they agreed that they were not associated with the invention and that their name should be removed.

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EXHIBIT C

----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/28/2010 10:06 AM -----
From: Chatschik Bisdikian/Watson/IBM
To: Louis P Herzberg/Watson/IBM@IBMUS
Cc: William Jerome/Watson/IBM@IBMUS, Mahmoud Negshshineh/Watson/IBM
Date: [REDACTED] 05:23 PM
Subject: YOR8_2000_0712 write-up

Lou,

Here is our write-up for disclosure: YOR8_2000_0712

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Pervasive, personal Data interactivity over voice-grade
Circuit-switched cellular networks

*Chatschik Bisdikian, William Jerome,
and Mahmoud Naghshineh*

ABSTRACT

This invention pertains to the accessing and controlling services, like home automation services, visually using established wireless, cellular telecommunication technologies for voice communications. According to this invention users of personal portable devices connect to the services over dial-up, wireless, cellular, circuit-switched voice telephone networks, receive and display listings of available services and use these listings to access and manipulate the services.

I. BACKGROUND

The use of cellular telephony has become an everyday experience for a lot of people. Cellular telephony permits users to have access to voice services (make calls, receive calls, access voice mail, teleconference, and so on) from practically everywhere without the need to be located next to a fixed wireline telephone, or wait for a telephone booth to become available.

However, the use of fixed-line telephony has some compelling advantages. A telephone number associated with a fixed telephone can be "tied" with the environment to which this telephone is located. Thus,

the telephone number of a fixed-line telephone in a home can be used as an identifier of that home. This indeed happens today when, for example, various providers of residential services, e.g., water, electricity, and CATV public utilities, home heating oil and newspaper delivery services, and so on, use a telephone number as a distinguishing identifier of the recipient of the residential service. Even more so, the advent of the tone telephony signaling and the caller ID feature has permitted the development of a number of applications that permit one to use telephony as a means to access controllable services, like home automation facilities, remotely. For example, this is achieved by installing a telephony-enabled device in a home and connect it to an available public switched telephone network (PSTN) jack in the home. The ring signal generated when calling the telephone number for this PSTN jack could activate a device which then could receive commands remotely by sending it tones generated by a tone dialing telephone (not unlike the practically ubiquitous touch-tone, voice response, interactive services). Doing so, one can use such a system to, say, activate environmental control (heat/AC) services remotely.

One drawback for these purely telephony-based, home devices are that they have limited, if any, capabilities in providing "feedback" or status information for the devices that they control. Interactivity using visual means and in particular textual and graphics means could greatly enhance user

experience in accessing remotely and controlling processes that interest various users.

Recently, a new generation of cellular phones are introduced that take advantage of data cellular services, which is a distinct service from cellular, voice telephony, to display data information provided to them by cellular data service and content providers. This information is shown on small displays (typically, 4 to 5 20-character lines) on these cellular phones. These cellular phones are some times called web-phones as the data services provided on them resemble the point-and-click experience and the information collecting and searching capabilities encountered on the World-Wide Web (WWW) using a web-browser on a notebook or desktop computer. Sometimes these phones are also called WAP phones, since a good number of them are using the Wireless Application Protocol (WAP) communications protocol suite for carrying the data services to the phones.

Data services on cellular phones focus primarily on e-commerce applications (purchasing of goods through "e-tailers" with presence on the Web), on-line banking, news, stock quote announcements, e-mail and messaging, audio/video downloads, and so on. All these services on the "wireless Web," a term that we would use without necessary implying the use of the WWW, WAP, etc., protocols, allow the users of the wireless Web to contact businesses, and/or retrieve and manipulate business related information, and/or retrieve casual information (e.g., sports news broadcasting) from

service and content providers.

An interesting element that could further enhance the usability of the wireless Web is the capability to use one's personal communication devices, e.g., the cellular phone, to access and manipulate information and processes that they do not necessarily fall in the traditional e-commerce/e-business category.

Even though this invention does not restrict itself only to this application, accessing one's home automation system remotely and interactively over a long-haul wireless connection provides a fine example for visualizing the main objective of this invention. It is an aspect of this invention to provide visual interactivity capability through one's personal device, using established cellular, voice telephony technologies, like first and second generation cellular telephony systems, without the need to upgrading or modifying the existing circuit switched wireless and wireline telephony infrastructure. Clearly, those skilled in the art could build additional instances of this invention without departing the spirit of this invention.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other aspects, features, and advantages of the present invention will become apparent upon further consideration of the following detailed description of the invention when read in conjunction with the drawing figures, in which:

FIG. 1 shows the communications scenario considered in a first embodiment of this invention using regular cellular and PSTN circuit switched technology to access an interactive home server and data distribution network.

FIG. 2 shows the communication protocol stacks involved in the first embodiment.

FIG. 3 shows the communication protocol stacks of a second embodiment of this invention using regular cellular circuit switched network used to access the intranet of an internet service provider (ISP) through which the interactive home server and data distribution network is accessed.

DESCRIPTION OF THE INVENTION

A first embodiment

FIG. 1 shows a first embodiment of this invention. The figure shows the access of a home data distribution network (HDN) through a cellular phone using no other infrastructure but a regular circuit-switched cellular and PSTN networks. The cellular phone 101 is a web-phone able to show HTML web pages, like the pdQ(TM) smartphone from Kyocera. The phone can connect 102 to a home server with access to a web server 103 which is able to send, receive, and process HTML web pages. Through the web server access is provided to individual services 104, 105, 106 in the home through a home data distribution network (HDN) 107, e.g., a power line distribution network, in-home wireless network, etc.

The connection to the home server is over a regular voice circuit-switched cellular phone network 108 and PSTN 109 which they are connected through a gateway 110 that allows the wireless and wireline portions of the telephone network to interwork.

This embodiment of the invention requires minimal infrastructure support in that it relies on already ubiquitously deployed circuit switched wireless and wireline telephone networks. FIG. 2 depicts the stacks of communication protocols involved in this embodiment.

In FIG. 2, we would use the term client device, to denote the device onto which one can view the browser application through which the remote home server is accessed. The client device could be a cellular phone with web browsing capabilities, or a PDA with browsing capabilities attached to a cellular phone, and so on. In general the client device is a personal, portable device that either natively or through another personal, portable device can access and control data applications using a regular circuit-switched cellular telephone network. While it is easier to visualize the client device and the data applications that it interacts with as a cellular phone and web-enabled services, these are not requirements for this invention and those skilled in the art may implement this invention using means other than just a cellular phone and a web-server. In the sequel, we would use the term cellular phone and client device interchangeably.

The cellular phone runs a browser application 210 which

in turn runs on top of the TCP/IP protocol stack 212. The Point-to-Point protocol (PPP) 214 adapts the packet oriented TCP/IP stack to the serial nature of the underlying communications networks 108 and 109. To physically connect to the telephone networks, a modem is required but it is not shown in the figure. The user of the cellular phone can dial-up directly into the server at home, which can be configured as a remote dial-up server, a feature that can be found on, for example, the Windows(TM) computer operating system from Microsoft. The PPP protocol layers 214 and 215 in the cellular phone and the home server allow the authentication of the end-to-end communications path between these two devices. Also, the PPP layer at the home server 215 aids in the automatic configuration of the TCP/IP stack at the cellular phone 212, e.g., by assigning an IP address to it. This permits the complementary TCP/IP layers in the cellular phone 212 and the server 213 to connect with each other over the virtual communications pipe formed by the two PPP layers 214 and 215 and interoperate. Finally, the browser application 210 on the cellular phone can access the browser server 211 on the home server through the virtual communications pipe formed by the TCP/IP layers 212 and 213.

The service access logic 216 that is accessible through the browser server 211 contains the software modules, sometimes referred to as service agents, that can be used to control the various services. These service agents may be web-enabled themselves and thus

accessible directly from the browser on the cellular phone. Otherwise, these service agents are web-server technologies, like common-gateway interface (CGI) or Java servlets computer programs that enable the browser server to interact with the services. Note that these agents may be active, i.e., running, at all times, or stored in a directory, say, an Lightweight Directory Access Protocol (LDAP) directory and be retrieved and activated only when a user wants to access a particular service.

The service access logic communicates with services 104, 106 using the home distribution network 107, which could be comprised a single network, say an 802.11 wireless local area network (WLAN), or an aggregation of networks, e.g., an 802.11 WLAN, an X-10 network, a twisted-pair telephone network, a Bluetooth piconet, and so on. The home distribution communications protocol stack 217 supports the communication protocols that are required to access the services over the various services available through HDN 107. This stack is not specified here. However, this stack can be either a universal one executed by each of the controlled device, e.g., based on the Jini(TM) technology from Sun, or a set of non-standard protocols optimized for the communication with each of the different services to be controlled.

FIG. 2 shows dialing up the remote dial-up server directly through the concatenation of a cellular and PSTN networks. Those skilled in the art, may build a solution that the remote dial-up server is associated

with a telephone number from a cellular phone provider as well. Furthermore, for transporting telephony signaling and other control data between the cellular phone and the remote dial-up server, a data network may be used in between, employing a technology like voice-over-IP (VoIP) for doing so. Such solutions do not depart the spirit of this invention.

A second embodiment

In the previous embodiment, we made a use of a voice, circuit-switched, wireless telephone network to dial-in through the regular PSTN directly to the home server. This approach is very attractive as it requires the user to "subscribe" to nothing more than the regular telephony service providers.

While the remote dial-up server capability is natively available or externally added on several popular computer operating systems, activation of it requires a user to configure his/her home server. However, user configuration of home computers may not be the first choice in many people's home chores. But, if the computer is connected to an intranet then the perils of the configuration of the remote dial-up server can be avoided. By placing the remote dial-up server away from the home computer, possibly at an ISP premise.

FIG. 3 depicts the embodiment in such a case. For simplicity, in the figure we show a telephone circuit-switched (CS) network 304 that represents the concatenation of the wireless 108, wireline 109 and

gateway 110 components shown in Figures 1 and 2.

The home server is connected to an intranet 301 and it could be always on, like when it is connected to a digital subscriber loop (DSL) data service or CatV data service. Note that always on is a logical state as modern home computers can operate in a standby mode and be activated and become fully operational when traffic destined to them is detected by their network interface card (NIC) 302, e.g., an 802.3 Ethernet card, or even when one dials-in to the computer as is the case with the First embodiment.

FIG. 3 shows dialing up the PoP 305 of the intranet 301 of an ISP to which the home server is attached to, let us refer to these ISP the home ISP. Those skilled in the art may build a solution where one dials up an ISP different than the home ISP, let us call this ISP the remote ISP, and use the remote ISP's intranet to connect to the home ISP and eventually the home server. Such a solution does not depart the spirit of this invention.

In this embodiment, the PPP protocol in the cellular phone terminates at a PPP server 303 within the intranet prior to reaching the home server. This is a typical case experienced when one dial-ups into a private, corporate, or public Internet service provider (ISP). The ISP intranet is accessed over the circuit-switched telephone network 304 at a point-of-presence (PoP) location, typically represented by a telephone number to which a subscriber of the ISP calls to connect to the ISP's intranet. Similarly to

the first embodiment, the PPP entity on the ISP side 303 aids, among other things, in the configuration of the the TCP/IP layer 212 in the cellular phone to allow the applications running on top of it to utilize the intranet. In particular, the TCP/IP layer in the cellular phone 212 and the home server 213 form a logical data pipe that routes data from the browser application 210 to the browser server 211. The data could be routed through a number of link technologies over the cellular CS network and the intranet until they finally reach the NIC in the home server 211. The various link technologies are transparent to the TCP/IP protocols and the applications running on them. Accessing of services through the HDN is done similarly to the first embodiment.

This embodiment points toward a service offering where a service provider provides access to one's home network. This service provider could be an ISP, or a third party. In either case, such a service would be viable only if secure communications between the cellular phone and the home server can be guaranteed. Thus, security processes, like secure socket layer (SSL), and/or secure IP protocol (IPSec) and/or link layer encryption and authentication, etc., should be added to secure the data path from the client to the home server.

Note that in the first embodiment, security is less of an issue as one dials-in directly to the home server and authenticates itself through the PPP service on the home server.

The above two embodiments, assume the use of a cellular phone that can use regular circuit-switched wireless technologies and be able to show HTML pages. Those skilled in the art, may connect other personal devices, e.g., a personal digital assistant (PDA), with web-browsing capabilities to the cellular phone prior to accessing services remotely on a home server' or place some of the home server functionality within a data network outside the home, allowing several users to subscribe to a common, third-party, virtual home-server provider. Such systems do not violate the spirit of the invention that considers the use of a long-haul, circuit switched wireless network as the network of attachment for the client device. The device is able to interact with the home server and provide visual information in the form of text and/or graphics (including images) and possibly, but not necessarily, audible and visual feedback, e.g., by turning on and of LED indicators on the client device.

In either embodiments of this invention, security credentials can be assigned to the user of the remote dial-up server, or the home server, or the service access logic, shown in Figures 2 and 3, so that the services that are available to an individual may differ from one individual to another even though both individuals access the same physical server, using the same cellular phone.

The above two embodiments represent application instances covered by this invention. Those skilled in the art may apply this invention in ways different than

the ones described by these embodiments without departing from the spirit of this invention, which is fully described by the set of claims presented next.

In the following claims, the term "service" represents a logical operation that can be invoked to execute an action on behalf of another entity. A remote service is a service that can be invoked remotely, and in particular for this invention it represents a service that can be invoked over an wireless, circuit-switched, voice telephony system. Moreover, the term "serving entity" represents a physical entity, comprised a software and/or hardware elements, that one can physically connect to and request to execute a service. The serving entity allows the physical execution of a service. For example, "controlling home environment" represents a service that does just that. With respect to figures 1 and 2, the computer 103 and the software programs 211 and 216 that permit us to execute the service "controlling home environment" represent the serving entity.

Claims

1. A method for a user to interact with at least one remote service, comprising:

said user connecting to a serving entity using a client device attached to a wireless, circuit-switched, voice telephony network;

obtaining and viewing a list of accessible remote services from said serving entity;

selecting said at least one remote service from said list; and

accessing and viewing said at least one remote service in obtaining desired results.

2. A method as recited in claim 1, wherein the client device is portable.

3. A method as recited in claim 1, wherein the client device is a cellular circuit-switched voice telephone.

4. A method as recited in claim 1, wherein the step of connecting includes dialing-up directly to the serving entity.

5. A method as recited in claim 1, wherein the step of viewing is performed employing a viewing device collocated with said client device.

6. A method as recited in claim 1, wherein the viewing device depicts information in a form including text,

graphics, images, light-emitting diode display, or any combination of these.

7. A method as recited in claim 1, wherein the step of selecting includes employing a menu.

8. A method as recited in claim 5, wherein the step of viewing is performed employing a web-browser and the serving entity is a web-server.

9. A method as recited in claim 1, wherein the step of connecting includes dialing-up to the serving entity through a data network to which the serving entity is connected to.

10. A method as recited in claim 9, wherein the data network is the intranet of an internet service provider.

11. A method as recited in claim 9, wherein the data network uses the TCP/IP protocol suite for transporting information.

12. A method as recited in claim 1, further comprising said serving entity employing attributes of said circuit switch network in authenticating said user.

13. A method as recited in claim 12, wherein said attributes include the telephone number of said client device.

14. A method as recited in claim 12, wherein said attributes include the telephone number of said serving entity.

15. A method as recited in claim 1, further comprising establishing credentials so that said at least one remote service can be manipulated in a secure manner on the serving entity.

16. A method as recited in claim 1, wherein the step of viewing views the list on a viewing device in a manner that depends on the user's access privileges to said at least one remote service.

17. A method as recited in claim 1, wherein the serving entity providing access to separate service agents, each used to access and control said at least one remote service.

18. A method as recited in claim 17, wherein the said service agents are computer software modules executable on a computer.

19. A method as recited in claim 18, where the said software modules are activated prior to invoking the remote service that they can access and control.

20. A method as recited in claim 18, where the said software modules are activated on demand after the remote service that they access and control has been invoked.

21. A method as recited in claim 18, wherein the said software modules are stored at a data repository

22. A method as recited in claim 21, wherein the said software modules are dynamically retrieved and

activated from the data repository after the remote service that they access and control has been invoked.

23. A method as recited in claim 1, wherein the said wireless, circuit-switched, voice telephony network is a first generation, analog, cellular network.

23. A method as recited in claim 1, wherein the said wireless, circuit-switched, voice telephony network is a second generation, digital, cellular network.

24. A method as recited in claim 4, wherein the step of dialing-up directly to the service entity further includes passing dialing signaling and control data to the serving entity through an intermediary data network.

25. A method as recited in claim 9, wherein the step of dialing-up to the serving entity through a data network, further includes dialing-up to the serving entity through a sequence of at least one data network, the last one of which the serving entity is attached to.

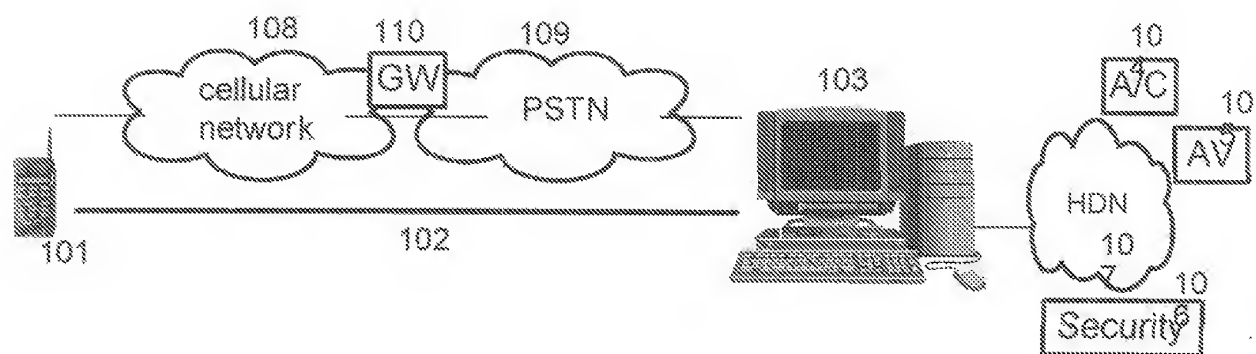


FIG. 1

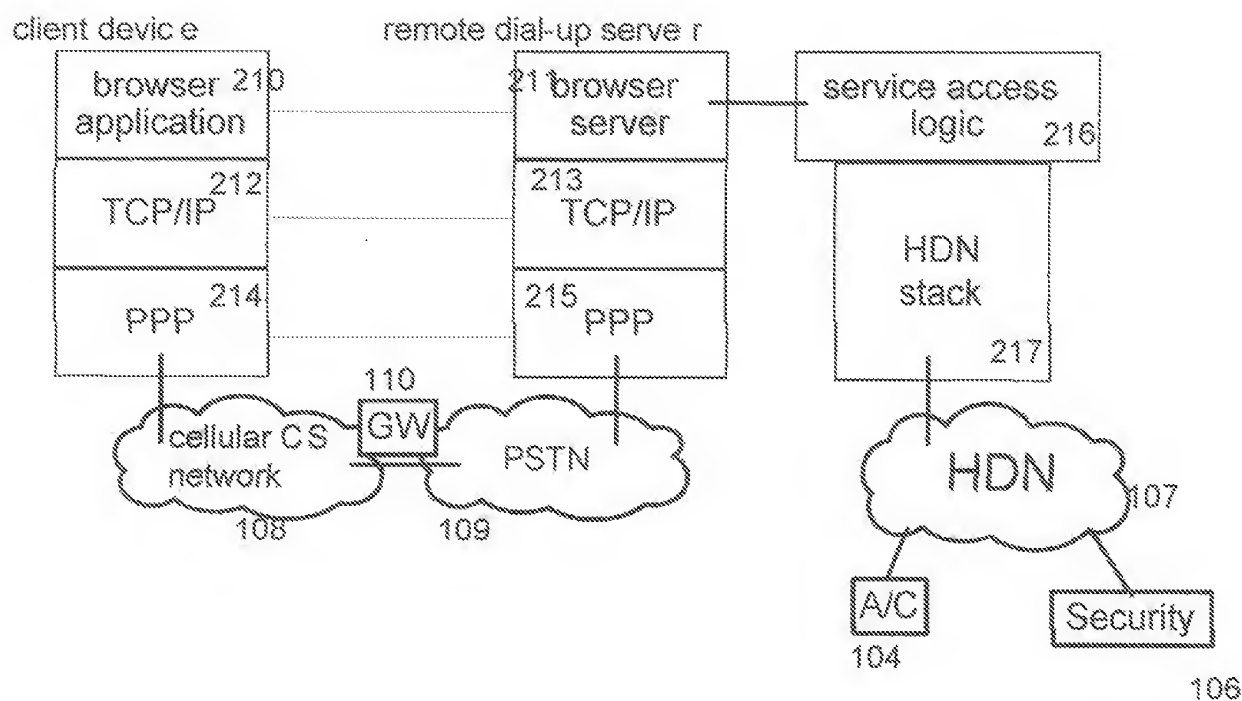


FIG. 2

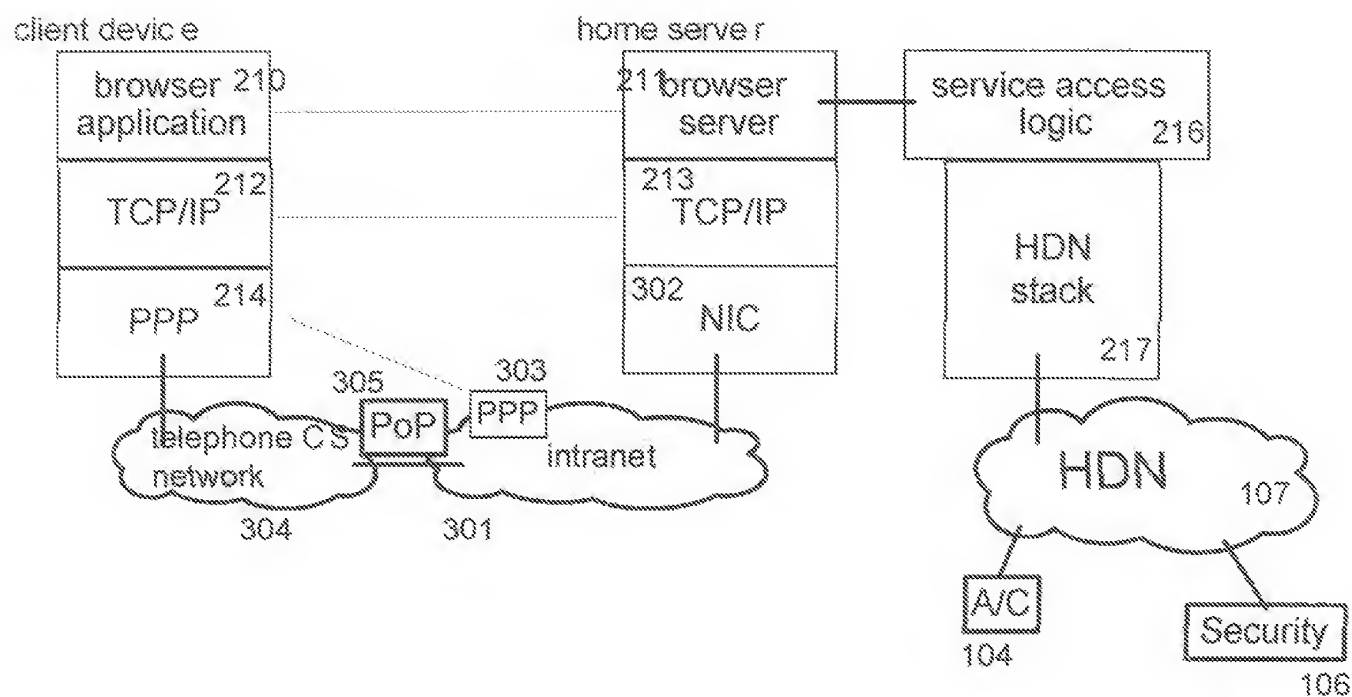
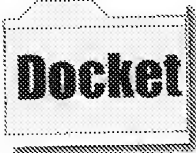


FIG. 3

EXHIBIT E


| | |
|---|--|
|  | Docket YOR9-2001-0520-US1 |
| | Application 09/933625 |
| | Prepared for and/or by an IBM Attorney - IBM Confidential |
| | Created By Barbara Rasa On [REDACTED] 04:01:14 PM Last Modified By Hong Juan Wang On [REDACTED] 01:50:16 AM |

Disclosure YOR8-2000-0712
Merged Disclosures None

Docket program(s) EH08
Title PERVASIVE, PERSONAL DATA INTERACTIVITY OVER VOICE-GRADE
CIRCUIT-SWITCHED CELLULAR NETWORKS

Summary

| | |
|-----------------------------|--|
| Status | Pending |
| File date | 21-Aug-2001 |
| Abandon date | |
| Application number | 09/503628 |
| Priority date | 21-Aug-2001 |
| Attorney rating information | 2 [REDACTED] Louis P Herzberg |
| Processing location | YOR |
| Responsible attorney | Vazken Alekian/Watson/IBM |
| Task attorney | |
| Task administrator | Wendy R Petrovich/Watson/IBM |
| Outside counsel firm | Law Offices of Ira D Blecher PC (VLP) |
| Technology code | |
| PPM tech area | 270 - Telecommunication Networks; Wireless/Mobile Networking |
| PPM rating | |
| Docket program(s) | EH08 - Early Harvest 08 |
| Application jurisdiction | US |
| Application type | Regular |
| Intellectual property type | Utility Patent |
| Patent ownership | IBM Only |
| Owning/Funding division | RES / RES |
| Owning functional area | 900 Goyal-Systems & Software |
| PPM selected countries | National: United States of America |

To view this patent on the web site, click --> 

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| > Charschik, Blidkian | 44579 | 22/9411 | N/A | | Naghshineh, Mahmoud |
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Inventors without Lotus Notes IDs

Docket Information

| | |
|---|---|
| Original location | |
| Decision date | [REDACTED] |
| Target filing date | |
| Attorney docket number | |
| IBM to pay fees | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| License of right | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Date distributed to counterpart countries | |
| Owning division | RES |
| Owning functional area | 900 Goyal-Systems & Software |
| Funding division | RES |
| PPM original counterpart date | |
| PPM quota type | <input type="radio"/> National <input type="radio"/> PCT <input type="radio"/> EP |
| Local use | |

Program tag Early Harvest '06 (EH06)
Comments

Allocation and Additional Billers

Funding division RES

The information below will be used as the accounting charge codes when invoices are sent to APU for payment

| Division | Department | Major | Minor | Sub Minor | Commodity | Project |
|----------|------------|-------|-------|-----------|-----------|---------|
| 10 | ROY | 634 | 0783 | 000 | X24 | - |

Accounts payable approval method

Invoice approver in AIMS

Not selected

Note: an invoice approver must be authorized to access the AIMS system to process invoices.

Additional firms/vendors allowed to bill to this matter

| OC Code | Services Provided | Open Date |
|---------|-------------------|-----------|
|---------|-------------------|-----------|

Outside Counsel Information

Outside counsel firm IS - Law Offices of Ira D. Blecker PC (VLP)

Outside counsel attorney name

Date sent to outside counsel

Outside counsel target date

Date received from outside counsel

Outside counsel reference number

Outside counsel evaluation form completed

Application Information

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Priority application serial number

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Sheet(s) of drawings

Number of independent claims

Total number of claims

Examining group 2444

Secrecy order ☐ Yes ☒ No

Foreign license grant date 09/20/2001

Foreign license grant country

Nonpublication requested ☐ Yes ☒ No

Projected publication date 02/27/2003

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Publication number 2003-0041110

Search report publication date

Search report received date

EXHIBIT F

----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/10/2001 03:21 PM -----

From: Chatschik Bisdikian/Watson/IBM
To: Louis P Herzberg/Watson/IBM@IBMUS
Cc: William Jerome/Watson/IBM@IBMUS, Mahmoud Naghshineh/Watson/IBM@IBMUS
Date: 08/06/2001 11:36 AM
Subject: A reminder and the YOR8_2000_0712 write-up

F(3)

Lon,

This reminder is being sent as you requested on response of my last note a month ago. Attached at the bottom of this reminder note, you'll find the write-up for disclosure YOR8_2000_0712, including the claims, that we've already worked upon, and figures.

Per our last conversation, this disclosure is to be filed in August (originally scheduled for June).

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----- Forwarded by Chatschik Bisdikian/Watson/IBM on 06/05/2001 11:23 AM -----

To: Louis P Herzberg/Watson/IBM@IBMUS
cc: William Jerome/Watson/IBM@IBMUS, Mahmoud Naghshineh/Watson/IBM@IBMUS
From: Chatschik Bisdikian/Watson/IBM@IBMUS
Subject: YOR8_2000_0712 write-up

F(2)

Lou,

Is there any progress with the write-up of the patent application below?

We had the claims meeting in early March, and I've sent you the final write-up a month-and-a-half ago. It is time to have this patent application filed.

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----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/26/2001 08:38 AM -----

To: Louis P Herzberg/Watson/IBM@IBMUS
cc: William Jerome/Watson/IBM@IBMUS, Mahmoud Naghshineh/Watson/IBM
From: Chatschik Bisdikian/Watson/IBM@IBMUS
Subject: YOR8_2000_0712 write-up

F(1)

Lou,

Here is our write-up for disclosure: YOR8_2000_0712

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EXHIBIT G

----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/18/2001 03:30 PM -----

From: Louis P Herzberg/Watson/IBM
To: Chatschik Bisdikian/Watson/IBM
Date: 08/17/2001 04:22 PM
Subject: Patent

PREPARED FOR IBM ATTORNEY / PRIVILEGED AND CONFIDENTIAL

Regards

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 @ 914-945-2947 [tl: 8-862-2947]

EXHIBIT H

----- Forwarded by Chatschik Bisdikian/Watson/IBM on 07/19/2001 03:31 PM -----

From: Chatschik Bisdikian/Watson/IBM

To: Louis P Herzberg/Watson/IBM

Date: 08/20/2001 04:36 PM

Subject: DOCKET NUMBER: YOR920010520US1; PERVASIVE, PERSONAL DATA INTERACTIVITY OVER VOICE-GRADE CIRCUIT-SWITCHED CELLULAR NETWORKS

Lou,

Here are my last comments on the disclosure. Note the changes on page 14 and claim 31. In claim 31, the reference to the cellular phone network is necessary.

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